**IT Applications Unit 3, AOS 1, Online Communities**

1. Complete the following, from pgs, 18-28: **Network hardware and software**

**Networks are classified according to below and we will study the following:**

1. **Network Categories: LAN, WAN**
2. **Network Architecture, client-server; peer-to-peer; internet peer-to-peer; intranet**
3. **Network communication standards**
4. **Network hardware and software**
5. **Transmission media**
6. **Network security**

**Network hardware and software**

**Network Operating systems**

1. Describe the role of the network operating system.

The role of the network operating system is to control the traffic on the network and defines how devices will communicate with each other.

1. What are the typical tasks of network server software?

Network server software performs tasks such as controlling file access, managing print queues, keeping track of users through their UserIDs and passwords, authenticating access to network servers and maintaining a log of network usage and problems.

1. What is the role of network client software?

The role of the network client software is to create their own data packets and transmit them at appropriate times to ensure successful communication.

1. List the 3 providers of network operating systems.

* Microsoft Windows Vista
* Windows 7
* Windows Server 2008

**Web client software**

1. List the typical client software

* Web browsers
* Electronic mail
* Videoconferencing
* Instant messaging

**Software for setting up websites**

1. Describe the role of http protocol.

The role of the http protocol is to allow access to pages written in hypertext markup language.

1. What is the role of web server software?

The role of the web server software is to provide content using the http protocol.

1. What is the role of a proxy server?

The role of the proxy server is to sit between the client and the rest of the internet. When a client requests for a page to be loaded the request will go to the proxy server and substitute the IP address for that of the client.

* 1. What are the advantages of using a proxy server?
* Blocks certain webpages
* Speed up network traffic

1. Describe the role of the following software:
   1. SMTP

Simple mail transfer protocol manages the sending and receiving of clients emails.

* 1. POP3

Post office protocol is used to store messages. When the SMTP server receives an email from its client or an external user it passes the message to the local POP3 server and is stored until the client is ready.

* 1. FTP

File transfer protocol software enables the uploading and downloading of files between computers and the internet.

* 1. Web software applications

Web software applications are programs designed for use on a website and include blogging software, forums and wikis.

**Cross-platform web software**

1. What is meant by a Cross-platform application? List egs.

A cross platform application used an execution engine and complier with libraries so that it runs identically on all machines.   
Eg. Adobe Flash or Java

1. What is adobe flash?

Adobe flash is a software tool that enables website developers to combine interactive content with text, 3D graphics, audio and video.

**Network Hardware**

Describe the characteristics and role of the following network hardware devices:

1. Network interface card

A network interface card is used to link a node to a network. It is connected by wires, radio waves, infa-red light waves, microwave of fibre optic cable.

1. Wireless access point

A wireless access point is used to connect wireless communications devices to a wired or wireless network. When a number of wired APs are connected to a wired network users are able to move from one area to another and maintain their network connection, this is called roaming.

1. Switches

A switch is a device that stores the address of every device down each wire leading from the switch. When a device talks to a switch the first packet is examined for the destination device’s media controller access address.

1. Routers

A router is a communication device that allows several remote LANs to connect over a WAN or to join a number of LANs into one bigger LAN.

1. modems

A modem is a device that is used to send a computer’s digital signal over a telephone line.

For each of the following modem types, in a table indicate the following:

|  |  |
| --- | --- |
| **Modem** | **Transfer Speed** |
| Dial up modem | 56 kbps |
| ADSL | 8 mbps |
| ADSL 2+ | 20 mbps |
| Broadband cable | 30 mbps |

1. How does a digital modem differ from a dial-up modem?

A digital modem is different from a dial up modem because it doesn’t need to convers analog signals into digital or vice versa because it uses ADSL and already uses digital signals.